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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			RONESI, VICKEY M	
			ART UNIT	PAPER NUMBER

1714

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/914,776	FARGIER ET AL.	
	Examiner	Art Unit	
	Vickey Ronesi	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/27/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts for compounds or compositions, the general nature of the compound or composition should be given as well as its use, *e.g.*, "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary.

Complete revision of the content of the abstract is required on a separate sheet.

2. The disclosure is objected to because of typographical errors. On page 7, line 5, "by" should read as "bi-." On page 8, line 7, " ± 12 " should read as " ≥ 12 ." In the table on page 11, the setting time for example 1 should read as "40 mn," not "40 mm."

The disclosure is objected to because of a possible data error. In the table on page 11, there is no "PR" listed under mode of polymerization. Either there is an error in the table, or it is unnecessary to recite that "PR means 'radical layer polymerization'" in lines 3 and 4 of page 11.

The disclosure is objected to because the weight percent concentrations in the composition on page 10, lines 15-19 add up to 105 wt %, *i.e.*, more than 100 wt %, and it is clearly written in error.

Appropriate correction is required.

Claim Objections

3. Claim 22 is objected to because of the following informalities: misspelling. "Phenlic ethers" should read as "phenolic ethers."

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Claims 24-28 are objected to because of the following informalities: grammatical errors.

A claim is required to be written as one sentence ending in a period. Claims 24-28 do not end in a period. In addition, to be a proper sentence, it is suggested that the word "and" be inserted after the second-to-last listed ingredient.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 21, 22, 23, 28, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 21, it recites the limitation "the case of epoxy resins" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

With respect to claim 22, the alternative expression recited in claim 22 is in improper Markush form. When materials recited in a claim are so related as to constitute a proper Markush group, they may be recited in the conventional manner, or alternatively. For example, if "wherein R is a material selected from the group consisting of A, B, C and D" is a proper

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limitation, then "wherein R is A, B, C or D" shall also be considered proper. See MPEP § 2173.05(h).

With respect to claim 23, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 23 recites the broad recitation "10 to 90% by weight of polymer," and the claim also recites "preferably 15 to 55% by weight of polymer," which is the narrower statement of the range/limitation.

With respect to claim 28, it includes weight percent concentrations in the composition that add up to 105 wt %, i.e., more than 100 wt %, and it is clearly written in error. In amending claim 28, new matter should not be introduced. It is noted that the specification is deficient on similar grounds. See paragraph 2 of the action.

With respect to claim 29, it provides for the use of a composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process

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applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

5. Claim 29 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 16-19 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Heimann et al (US 5,714,093) in view of evidence given by *Hawley's Chemical Dictionary*.

Claim 16 as written is in product-by-process format where the composition is modified by a process that does not necessarily add additional limitations to the composition. The method of obtaining the viscoelastic gel "by slow in situ polymerization, after injection at ambient temperature into the sheath surrounding the strands and in the presence of a swelling solvent" is a process limitation to which no patentable weight is to be given. In addition, no patentable weight is to be given to "polymerizable by free radical technique" in part a. Case law holds that "even though product-by-process claims are limited by and defined by the process, determination

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of patentability is based on the product itself. The patentability of a product does not depend on its method of production.” See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) and MPEP § 2113.

Heimann et al discloses novel buffered compositions containing a gel carrier used to inhibit corrosion of steel that can be applied to strands used in construction such as prestressed cables and post tensioned cables in concrete (col. 9, line 32; col. 11, lines 66-67). The gel carrier comprises a polymer at least one of polyacrylate, polyurethane, or epoxy (col. 20, lines 1-5). Polyacrylics are inherently derived from vinyl monomers, and polyurethanes and epoxies are inherently derived from bi- or tri-functional compounds. Evidence to support the examiner’s position is found in *Hawley’s Chemical Dictionary* which states that acrylates, in particular methyl methacrylate, have a vinyl grouping, that polyurethane “is produced by the condensation reaction of a polyisocyanate and a hydroxyl-containing material” (i.e., bi-functional compounds), and that epoxy is derived from polyols and glycidyl ethers (i.e., bi-functional compounds) and cures readily with amines. Suitable liquids include dibasic acid esters, polyol esters, polyglycols, and cycloaliphatics (col. 11, lines 38-40). Heimann et al in view of evidence given by *Hawley’s Chemical Dictionary* therefore explicitly and inherently anticipates the present claims.

7. Claims 16, 19, 22, 23, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (US 4,963,698).

Chang et al discloses a shaped article of a gel composition that is used to seal electrical cables. Preferred gels used contain crosslinked non-silicone polymers that are dispersed in a liquid from about 20% to about 95% by weight based on the weight of the liquid and polymer (col. 3, lines 58-65). The polymer starting material is crosslinkable liquid polymeric material

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(col. 5, lines 16-18), i.e., bifunctional or trifunctional compounds that react to give bidimensional or tridimensional polymers. Chang et al discloses that suitable liquids include alkyl (or aryl) phthalates, esters of polyethylene glycols, and polyterpenes (col. 5, lines 60-65). In addition, Chang et al discloses that a filler may be added to the gel composition that includes corrosion inhibitors, i.e., anti-corrosion agents (col. 6, line 33). The gel is also known for its stress grading properties, i.e., improves stiffness of cable, a property that improves the shock absorbing properties of the cable (col. 4, line 57-58). Chang et al therefore anticipates the present claims.

8. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al in view of evidence given by *Hawley's Chemical Dictionary*.

Chang et al teaches that polyurethane-based gels are widely known in the art, and its gel composition includes a polyurethane-based gel (col. 11, line 61-62). Although Chang et al does not disclose the monomeric reagents for polyurethane, it is inherent that polyurethane is derived from polyisocyanates and polyols. Evidence to support the examiner's position is found in *Hawley's Chemical Dictionary*, which states that polyurethane "is produced by the condensation reaction of a polyisocyanate and a hydroxyl-containing material." Chang et al in view of evidence given by *Hawley's Chemical Dictionary* therefore explicitly and inherently anticipates the present claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al as applied to claims 16, 19, 22, 23, and 29 above and further in view of Becker et al (US 5,708,117).

Chang et al's composition is open to the addition of corrosion inhibitors as stated in col. 6, line 33; however, Chang et al does not disclose the use of a specific anti-corrosion agent, in particular, an inorganic compound of the phosphate type or an organic compound of the polyaniline type.

Becker et al teaches that zinc phosphate can be used as an anti-corrosion pigment in a polyurethane coating. Given that Chang et al is open to an anti-corrosion agent and that zinc phosphate is a known anti-corrosion agent as taught by Becker et al, it would have been obvious to one of ordinary skill in the art to add zinc phosphate for the benefit of corrosion resistance as taught by Becker to Chang et al and thereby arrive at the present invention.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann et al in view of Zaid (US 5,936,059).

Heimann et al discloses that its anti-corrosion buffered composition is prepared so that the pH is maintained at a level at which the metal substrate is passive to corrosion (col. 6, lines 38-40) and that steel and other iron alloys have passivity toward corrosion when the pH ranges from 8 to 13 (col. 8, lines 4-7). The presently claimed $\text{pH} \geq 12$ overlaps the pH range disclosed by Heimann et al; however, Heimann et al is silent with respect to the addition of excess diamine or triamine to epoxy compositions.

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Zaid teaches an epoxy coating for metallic surface that exhibits improved corrosion-resistance due to the addition of amines such as alkoxylated amines, including diamines, (col. 3, lines 37-53) and imidazolines as a curing agent (col. 1, line 11; lines 58-61). Therefore, it would have been obvious to one of ordinary skill in the art to increase the pH levels in an epoxy composition with the addition of basic amines for the benefit of corrosion resistance as taught by Zaid.

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann et al in view of Chang et al and Klein et al (US 5,567,748).

The discussions with respect to Heimann et al in paragraph 6 and Chang et al in paragraph 7 are hereby incorporated by reference.

Heimann et al discloses gel carrier compositions where the carrier can comprise "at least one of" polyurethane or epoxy (col. 20, lines 1-5) and suitable solvents include inert aromatic and/or modified hydroxylated petroleum (see paragraph 6). Heimann et al is silent with respect to specific compositions of monomer and solvent; however, given that Heimann et al is open to the use of polyurethane/epoxy resins and given the discussion in paragraph 6 regarding the monomeric units of polyurethanes and epoxy, it is intrinsic that an isocyanate, an amine prepolymer (for crosslinking), bisphenol A (polyol), and a glycidyl ether would be used in its gel composition.

Although Heimann et al does not disclose the concentrations of the monomeric units, it is the examiner's position that these concentrations are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process

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is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate concentrations including those within the scope of the present claims so as to produce desired end results.

Heimann et al is silent with respect to the concentration of solvent in the gel composition; however, Chang et al, which is in the same field of endeavor as Heimann et al, discloses, as discussed in paragraph 7, a gel composition that includes a polyurethane binder dispersed in an inert solvent in the amount from about 20 to about 95 wt %. Therefore, it would have been obvious that the use of a solvent concentration as disclosed by Chang et al in Heimann's et al's composition would have been within the skill level of one of ordinary skill in the art.

Heimann et al is also silent with respect to a specific type of glycidyl ether as presently claimed. Klein et al discloses that diluents, preferably glycidyl ethers, are compounds which function to prevent branching of the resin during the preparation of the amine terminated resin, are well known in the art (col. 11, lines 31-52). In particular, cresyl glycidyl ether is disclosed as an example (col. 11, line 40). Given that Heimann is open to the addition of a glycidyl ether and given that Klein et al discloses a particular use of cresyl glycidyl ether as a diluent, it would have been obvious to one of ordinary skill in the art to use cresyl glycidyl ether in Heimann et al's composition.

In view of the above discussion, it would have been obvious to one of ordinary skill in the art to modify Heimann et al's gel composition with a solvent concentration range as taught

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by Chang et al and to use cresyl glycidyl ether as taught by Klein et al to thereby arrive at the present invention.

12. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann et al in view of Chang et al and further in view of Klein et al and Federici et al (EP 0 212 852).

The discussions with respect to Heimann et al in paragraph 6 and Chang et al in paragraph 7 are hereby incorporated by reference.

Heimann et al discloses gel carrier compositions where the carrier can comprise at least one of polyurethane or epoxy (col. 20, lines 1-5). Heimann et al is silent with respect to specific compositions of monomer and solvent; however, given that Heimann et al is open to the use of polyurethane/epoxy resins and given the discussion in paragraph 6 regarding the monomeric units of polyurethanes and epoxy, it is intrinsic that an isocyanate, an amine prepolymer (for crosslinking), bisphenol A (polyol), and a glycidyl ether would be used in its gel composition.

Although Heimann et al does not disclose the concentrations of the monomeric units, it is the examiner's position that these concentrations are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate concentrations including those within the scope of the present claims so as to produce desired end results.

Heimann et al is silent with respect to the concentration of solvent in the gel composition; however, Chang et al, which is in the same field of endeavor as Heimann et al,

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discloses, as discussed in paragraph 7, a gel composition that includes a polyurethane binder dispersed in an inert solvent in the amount from about 20 to about 95 wt %. Therefore, it would have been obvious that the use of a solvent concentration as disclosed by Chang et al in Heimann et al's composition would have been within the skill level of one of ordinary skill in the art.

Heimann et al is also silent with respect to a specific type of glycidyl ether as presently claimed. Klein et al discloses that diluents, preferably glycidyl ethers, are compounds which function to prevent branching of the resin during the preparation of the amine terminated resin, are well known in the art (col. 11, lines 31-52). In particular, 2-ethyl hexyl glycidyl ether is disclosed as an example (col. 11, line 41). Given that Heimann et al is open to the addition of a glycidyl ether and given that Klein et al discloses a particular use of 2-ethyl hexyl glycidyl ether as a diluent, it would have been obvious to one of ordinary skill in the art to use 2-ethyl hexyl glycidyl ether in Heimann et al's composition.

In addition, Heimann et al is silent with respect to a specific type of amine prepolymer as presently claimed. Federici et al teaches that polyaminoimidazolines are well known in the art (col. 3, lines 1-2) and are used as hardeners in epoxy compositions. Given that Heimann et al is open to the addition of an amine prepolymer and given that Federici et al discloses a particular use of polyaminoimidazolines as hardeners in epoxy compositions, it would have been obvious to one of ordinary skill in the art to use polyaminoimidazolines in Heimann et al's composition.

In view of the above discussion, it would have been obvious to one of ordinary skill in the art to modify Heimann et al's gel composition with a solvent concentration range as taught by Chang et al, to use cresyl glycidyl ether as taught by Klein et al, and to use polyaminoimidazolines as taught by Federici et al to thereby arrive at the present invention.

13. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heimann et al in view of Chang et al and further in view of Federici et al.

The discussions with respect to Heimann et al in paragraph 6 and Chang et al in paragraph 7 are hereby incorporated by reference.

Heimann et al discloses gel carrier compositions where the carrier can comprise at least one of polyurethane or epoxy (col. 20, lines 1-5). Heimann et al is silent with respect to specific compositions of monomer and solvent; however, given that Heimann et al is open to the use of polyurethane/epoxy resins and given the discussion in paragraph 6 regarding the monomeric units of polyurethanes and epoxy, it is intrinsic that an isocyanate, an amine prepolymer (for crosslinking), bisphenol A (polyol), and a glycidyl ether would be used in its gel composition.

Although Heimann et al does not disclose the concentrations of the monomeric units, it is the examiner's position that these concentrations are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate concentrations including those within the scope of the present claims so as to produce desired end results.

Heimann et al is silent with respect to the concentration of solvent in the gel composition; however, Chang et al, which is in the same field of endeavor as Heimann et al, discloses, as discussed in paragraph 7, a gel composition that includes a polyurethane binder

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dispersed in an inert solvent in the amount from about 20 to about 95 wt %. Therefore, it would have been obvious that the use of a solvent concentration as disclosed by Chang et al in Heimann et al's composition would have been within the skill level of one of ordinary skill in the art.

Heimann et al is silent with respect to a specific type of amine prepolymer as presently claimed. Federici et al teaches that polyaminoimidazolines are well known in the art (col. 3, lines 1-2) and are used as hardeners in epoxy compositions. Given that Heimann et al is open to the addition of an amine prepolymer and given that Federici et al discloses a particular use of polyaminoimidazolines as hardeners in epoxy compositions, it would have been obvious to one of ordinary skill in the art to use polyaminoimidazolines in Heimann et al's composition.

In view of the above discussion, it would have been obvious to one of ordinary skill in the art to modify Heimann et al's gel composition with a solvent concentration range as taught by Chang et al and to use polyaminoimidazolines as taught by Federici et al to thereby arrive at the present invention.

14. Claim 27 is rejected as being unpatentable over 35 U.S.C. 103(a) as being unpatentable over Chang et al as applied to claims 16, 17, 19, 22, 23, and 29 above and further in view of Conger et al (US 4,059,709), Oshima et al (US 5,550,198), and Rinde et al (US 5,104,930).

As described in paragraphs 7 and 8, Chang et al discloses a polyurethane composition used to seal electrical cables, where the polyurethane is intrinsically derived from isocyanate and polyols and the solvent can include alkyl phthalates.

Although Chang et al does not disclose the concentrations of the monomeric units, it is the examiner's position that these concentrations are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds

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that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate concentrations including those within the scope of the present claims so as to produce desired end results.

Chang et al is silent with respect to the specific polyol as presently claimed. Conger et al discloses that typical examples of polyol poly-hydroxyl compounds are butanediol and polyoxymethylene glycol (col. 5, lines 33, 35-36). Therefore it would have been obvious to one of ordinary skill in the art to use such typical polyols as taught by Conger et al in Chang et al's composition.

Chang et al is silent with respect to the specific isocyanate as presently claimed. Oshima et al discloses that diphenylmethane-4,4'-diisocyanate is a typical aromatic polyisocyanate used in polyurethane compositions (col. 6, line 47). Therefore, it would have been obvious to one of ordinary skill in the art to use such a typical aromatic isocyanate as diphenylmethane-4,4'-diisocyanate as taught by Oshima et al in Chang et al's composition.

Chang et al is silent with respect to the specific alkyl phthalate as presently claimed. Rinde et al discloses urea gel compositions used to seal and environmentally protect various substrates. Rinde et al teaches that the inert diluent that can be a solvent such as any one of a variety of phthalates, including dibutyl phthalate (col. 11-12, Table 1). Given that Rinde et al is in the same field of endeavor as Chang et al, it would have been obvious to one of ordinary skill in the art to use a phthalate swelling solvent as taught by Rinde et al in Chang et al's composition.

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In view of the above discussion, it would have been obvious to one of ordinary skill in the art to utilize such typical polyols and isocyanates as taught by Conger et al and Oshima et al, respectively, and to use a solvent such as dibutyl phthalate as taught by Rinde et al in a polyurethane gel composition of Chang et al and thereby arrive at the present invention.

15. Claim 28 is rejected as being unpatentable over 35 U.S.C. 103(a) as being unpatentable over Heimann et al et al in view of Rinde et al (US 5,104,930).

The discussion with respect to Heimann et al in paragraph 6 is hereby incorporated by reference.

Heimann et al discloses gel carrier compositions where the carrier can comprise at least one of polyurethane or polyacrylate (col. 20, lines 1-5). Heimann et al is silent with respect to specific compositions of monomer and solvent; however, given that Heimann et al is open to the use of urethane/acrylate resins, and given the discussion in paragraph 6 regarding the monomeric units of polyurethane and polyacrylate, it is intrinsic that a urethane/acrylate polymer and methyl methacrylate would be used in a gel composition.

Although Heimann et al does not disclose the concentrations of the monomeric units, it is the examiner's position that these concentrations are result effective variables because changing them will clearly affect the type of product obtained. See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate concentrations including those within the scope of the present claims so as to produce desired end results.

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Heimann et al is silent with respect to using diisobutyl phthalate as a swelling solvent as presently claimed. Rinde et al discloses urea gel compositions used to seal and environmentally protect various substrates. Rinde et al teaches that the inert diluent that can be a solvent such as any one of a variety of phthalates, including dibutyl phthalate (col. 11-12, Table 1). Given that Rinde et al is in the same field of endeavor as Heimann et al, it would have been obvious to one of ordinary skill in the art to use a phthalate swelling solvent as taught by Rinde et al in Heimann et al's composition and thereby arrive at the present invention.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vickey Ronesi whose telephone number is (571) 272-2701. The examiner can normally be reached on Monday - Friday, 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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07/07/04



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